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In the Claims:

Listing of all claims:

1                   1.   (Currently Amended) A welding power  
2                   supply comprising:  
3                   an input rectifier configured to receive an  
4                   input line voltage and provide a rectified voltage on  
5                   an output;  
6                   a pre-regulator connected to receive as an  
7                   input the output of the rectifier and provide a dc bus  
8                   as an output; and  
9                   a convertor, connected to receive the output  
10                  of the pre-regulator and provide a welding output;  
11                  wherein the pre-regulator is an SVT and ~~a SET~~  
12                  switched convertor.

1                   2.   (Currently Amended)   The power supply of  
2                   claim 1, wherein the pre-regulator includes a snubber  
3                   circuit having a diode that is SVT ~~SET~~ switched.

3.   (Cancelled.)

1                   4.   (Currently Amended)   The power supply of  
2                   claim 1, wherein the converter is a boost convertor  
3                   including a switch, and the pre-regulator includes a snubber  
4                   circuit having a capacitor and an inductor, wherein the  
5                   capacitor is connected to slow the switch voltage rise while  
6                   the switch is turning off, ~~and the inductor is connected to~~  
7                   ~~slow the switch current rise when the switch is turning on.~~

1                   5.   (Original)           The power supply of claim 1,  
2                   wherein:

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3 the boost converter includes a boost inductor, a  
4 switch, and an output capacitor;

5 the converter includes a snubber, including a  
6 snubber capacitor, a snubber inductor, a first snubber  
7 diode, a second snubber diode, a third snubber diode, a  
8 fourth snubber diode, and first and second snubber  
9 capacitors;

10 the snubber inductor, switch, and fourth diode are  
11 connected such that current may flow from the boost inductor  
12 to any of the snubber inductor, switch, and fourth diode;

13 current flowing through the fourth diode can flow  
14 through either the third diode or the second capacitor;

15 current flowing from the boost inductor through  
16 the snubber inductor can flow through either the first diode  
17 or the first capacitor;

18 the fourth diode and the second capacitor are  
19 connected across the switch;

20 current flowing through the third diode can flow  
21 through either the first capacitor and the snubber inductor  
22 or through the second diode; and

23 current flowing through the first and second  
24 diodes flows to the output.

1 6. (Original) The power supply of claim 4  
2 further including a fifth snubber diode connected in anti-  
3 parallel to the switch.

1 7. (Currently Amended) A method of  
2 providing welding power, comprising ~~the steps of~~:  
3 rectifying an input line voltage;  
4 pre-regulating the input line voltage to  
5 provide a dc bus; and  
6 converting the dc bus to a welding output;

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7 wherein the step of pre-regulating includes  
SVT and ~~SET~~ switching a boost convertor.

1 8. (Currently Amended) The method of claim 7,  
2 wherein the step of pre-regulating includes ~~the steps of:~~  
3 maintaining a boost converter switch off, and  
4 allowing current to flow through a boost inductor, a snubber  
5 inductor, and a first diode, to the dc bus;  
6 turning the switch on and diverting current from  
7 the snubber inductor to the switch;  
8 reversing the current in the snubber inductor;  
9 discharging a second capacitor through a first  
10 capacitor, a third diode, and the snubber inductor, thereby  
11 transferring energy from the second capacitor to the snubber  
12 inductor;  
13 diverting current through a fourth diode, the  
14 third diode and the first capacitor when the second  
15 capacitor is discharged, thereby transferring energy from  
16 the snubber inductor to the first capacitor;  
17 turning the switch off and diverting current  
18 through the fourth diode and into the second capacitor;  
19 allowing the voltage on the second capacitor to  
20 rise until current begins to flow from the snubber inductor  
21 to the first capacitor;  
22 diverting current from the second capacitor  
23 through a third diode to the second diode;  
24 allowing the current flowing from the boost  
25 inductor to the snubber inductor to increase ~~until all of~~  
26 ~~the current from the boost inductor flows into the snubber~~  
27 ~~inductor;~~  
28 diverting current from the first capacitor to the  
29 first diode; and  
repeating the above ~~these steps~~.

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1                   9. (Currently Amended) The method of claim 7,  
2 further including the ~~step of~~ SVT turning off a diode in a  
snubber circuit.

1                   10. (Currently Amended) The method of claim 9.,  
2 wherein the step of SVT and ~~SET~~ switching a boost convertor  
3 includes slowing the switch voltage rise with a capacitor  
4 while the switch is turning off, ~~and slowing the switch~~  
5 ~~current rise with an inductor while the switch is turning~~  
6 ~~on.~~

1                   11. (Currently Amended) A welding power supply  
2 comprising:  
3                   an input rectifier means for receiving an input  
4 line voltage and providing a rectified voltage;  
5                   a pre-regulator means for receiving the rectified  
6 voltage and providing a dc bus, wherein the pre-  
7 regulator means is connected to the rectifier means;  
8 and  
9                   a convertor means for receiving the output of the  
10 pre-regulator means and provide a welding output,  
11 wherein the converter means is connected to the pre-  
12 regulator means;  
13                   wherein the pre-regulator means includes SVT ~~and~~  
14 ~~SET~~ switching means.

1                   12. (Original)           The power supply of claim 11,  
2 wherein the pre-regulator means includes a snubber means  
3 having a diode that is SVT switched.

1                   13. (Currently Amended) The power supply of claim  
2 11, wherein the boost converter includes a switch, and the

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3 pre-regulator includes a snubber circuit means for providing  
4 the SVT and ~~SCT~~ switching.

1 14. (Currently Amended) A welding power  
2 supply comprising:

3 an input rectifier configured to receive an  
4 input line voltage and provide a rectified voltage on  
5 an output;

6 a pre-regulator connected to receive as an  
7 input the output of the rectifier and provide a dc bus  
8 as an output; and

9 an inverter, connected to receive the output  
10 of the pre-regulator and provide a welding output;

11 wherein the inverter includes a an SVT  
12 switched snubber circuit having a first switch in anti-  
13 parallel with a first diode, and a second switch in  
14 anti-parallel with a second diode, and wherein the  
15 combination of the first switch and first diode are  
16 connected in series with the combination of the second  
17 switch and the second diode, and wherein the first and  
18 second switches are connected in opposing directions.

1 15. (Currently Amended) A welding power  
2 supply comprising:

3 a first current path through a transformer in  
4 a first direction, the first current path  
5 including at least a first switch with an anti-  
6 parallel first diode;

7 a second current path through the transformer  
8 in a second direction, the second current path  
9 including at least a second switch with an anti-  
10 parallel second diode;

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11                   a an SVT switched snubber, including a  
12                   current path having a third switch with an anti-  
13                   parallel third diode, a fourth switch with an anti-  
14                   parallel fourth diode, wherein the third switch and  
15                   anti-parallel diode are in series with, and oppositely  
16                   directed from, the fourth switch and anti-parallel  
17                   diode, and at least one snubber capacitor.

1                   16. (Original)           The power supply of claim 15  
2                   wherein the first and second switches are in a half-bridge  
3                   configuration.

1                   17. (Original)           The power supply of claim 15  
2                   wherein the at least one snubber capacitor includes a first  
3                   snubber capacitor connected with a first bus line and a  
4                   second snubber capacitor connected with a second bus line.

1                   18. (Original)           The power supply of 15  
2                   wherein the at least one snubber capacitor is in series with  
3                   the third and fourth switches and anti-parallel diodes.

1                   19. (Currently Amended) A method of  
2                   providing welding power comprising the steps of:  
3                   turning on a first power switch and a first  
4                   snubber switch, and allowing current to flow through  
5                   the first power switch, a first dc bus, a first power  
6                   capacitor, and in a first direction through a  
7                   transformer;  
8                   turning the first power switch off and  
9                   allowing current to flow through the first snubber  
10                  switch, a second snubber diode, a snubber capacitor,  
11                  and through the transformer in the first direction,

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12 while the first power switch is turning off, to provide  
13 a slow voltage transition off;

14 allowing current to flow through a second  
15 anti-parallel power diode, a second DC bus, a second  
16 power capacitor, and through the transformer in the  
17 first direction, while the first power switch is  
18 continuing to turn off, to continue providing a slow  
19 voltage transition off;

20 turning off the first snubber switch;

21 turning on a second power switch and a second  
22 snubber switch after the first power switch is off, and  
23 allowing current to flow through the second power  
24 switch, the transformer in a second direction, the  
25 second power capacitor, and the second bus;

26 turning the second power switch off and  
27 allowing current to flow through the second snubber  
28 switch, a first snubber diode, the transformer in the  
29 second direction, and a snubber capacitor, while the  
30 second power switch is turning off, to provide a slow  
31 voltage transition off;

32 allowing current to flow through a first  
33 power diode, the transformer in the second direction,  
34 and the first power capacitor, while the second power  
35 switch is turning off, to provide a slow voltage  
36 transition off;

37 turning off the second snubber switch;  
38 and repeating the above these steps.

1 20. (Original) The method of claim 19,  
2 wherein the steps of turning on the power switches includes  
3 soft switching on the power switches.

21 - 22. (Cancelled.)